# IRAN

### Journal of the British Institute of Persian Studies

Volume ix 1971

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Published annually by

#### THE BRITISH INSTITUTE OF PERSIAN STUDIES

c/o The British Academy, Burlington House, Piccadilly, London, WIV ONS
Price: £5.00

## A HOARD OF INGOT-CURRENCY OF THE MEDIAN PERIOD FROM NÜSH-I JĀN, NEAR MALAYIR

#### By A. D. H. Bivar

#### The Circumstances of the Find

The 1967 campaign of excavations at Nūsh-i Jān, some seven miles north-west of Malayir, and fortythree miles south-east of Hamadan, has been described by Mr. David Stronach in his article for the Bulletin of the Metropolitan Museum, and subsequently in greater detail in the 1969 issue of Iran. On the last day of the season, there was uncovered a hoard of silver objects in a bronze bowl (Pl. IIIc), buried below floor level at the base of the ramp in the Eastern Building or Fort. This structure is ascribed by the excavator to the phase Nūsh-i Jān I, dated to the period of the Median kingdom during the seventh century B.C. Its abandonment is placed by him  $\epsilon$ . 600 B.C., a conclusion which seems to be entirely supported by the present examination of the find. Of over 200 silver objects found in the bowl, some were in the form of jewellery, and included a single earring (139), and numerous double and quadruple spiral beads. These are to be discussed elsewhere by Mr. Stronach. It will be maintained here that the remaining items were not primarily intended for personal adornment or the manufacture of jewellery, but were rather valued for their bullion content, and are thus of interest for the history of ancient currency prior to the introduction of a formal coinage in the ancient Near East. The present writer is indebted to Mr. Stronach not only for his hospitality at Nūsh-i Jān during an earlier stage of the excavation, but also for his kind invitation to publish the monetary portion of the find, and for the illustrative material which is used here. The present examination is also extensively based on the register of the hoard compiled by Mr. 'Alī Sarfarāz of the Iranian Archaeological Service, and by Mrs. Stronach, who assisted in many ways, and in particular weighed many of the pieces, and cleaned some of those obscured by encrustation. At the Mūzeh Īrān Bāstān, Tehran, Mr. Khurramabādī kindly facilitated the writer's examination (during his travel on study leave from the School of Oriental and African Studies in 1969) of the portion of the find which passed to that Museum, and arranged for him to benefit from Mr. Isfandiyārī's help in verifying the register numbers, and other details.

Mention of the town of Malayir in a numismatic context will naturally recall the well-known treasure of Greek coins found there in 1934, of which 306 pieces are reported to be in the Mūzeh Īrān Bāstān.³ The precise find-spot of that discovery was not officially disclosed, but since it represents the more recent chronological horizon of the fifth century B.C., attested at our site by only a few minor structures in squares S9 and T9,⁴ it may be regarded as improbable that the 1934 find had any connexion with the mound of Nūsh-i Jān. At any rate, it is here assumed to have no relevance, even of a marginal nature, to the present discussion.

#### The "Silversmiths' Hoards"

The occurrence of so-called "Silversmiths' hoards" is a widespread fact in archaeology as late as the Achaemenid period (550-331 B.C.) throughout the Near and Middle East. Typically such finds contain ancient Greek silver coins, entire or subdivided, and frequently bearing characteristic chiselcuts; fragments of ancient jewellery and metalware; cut lengths of silver wire; chunks of cut silver hacked from larger slabs (the well-known *Hacksilber* of the German writers, for which the term "Cut-silver" is here employed as a standard translation); occasionally thickish, rectangular ingots which we

4 Stronach, Iran VII, p. 19.

<sup>&</sup>lt;sup>1</sup> "Tepe Nush-i Jan: a mound in Media", The Metropolitan Museum of Art Bulletin XXVII (3 Nov. 1968), 183.

<sup>&</sup>lt;sup>2</sup> "Excavations at Tepe Nūsh-i Jān, 1967", Iran VII (1969),

<sup>&</sup>lt;sup>8</sup> D. Schlumberger "L'argent grec dans l'empireachéménide",

in Raoul Curiel and Daniel Schlumberger, Trésors monétaires d'Afghanistan (Mémoires de la Délégation Archéologique Française en Afghanistan XIV), Paris 1953, p. 50.

may call "Slab-ingots";5 and flat circular ingots of various sizes formed by metal solidifying on the bottom of a jar<sup>6</sup> (the variety known in German as Silberkuchen, here Englished as "Cake-ingots"). The one feature which all these objects present in common is that they are all composed of silver. Finds of this character have been recorded from Kabul, Afghanistan; from uncertain sites in Iraq; from Ras Shamra in Syria;9 from Beni-Hassan (so spelt in the literature), Damanhur and Myt-Rahineh in Egypt. 10 A further considerable list of similar finds from the Palestine area is the basis of the interesting discussion by Mrs. M. S. Balmuth.<sup>11</sup>

It is clear that such finds occur throughout the territory of the Achaemenid Empire, and occasionally beyond. When recognisable Greek coins are present in such contexts, their presence has naturally been found helpful for dating purposes. At the same time, the occurrence of Greek coins has had the useful effect of drawing attention to the antiquarian interest of the material. So seldom, indeed, have "Silversmiths' hoards "lacking Greek coins been noticed in the literature that one can suspect casual finds of that class (including, naturally, any pre-Achaemenid in date) may often have gone to the melting-pot without further examination.<sup>12</sup> The date indicated by Greek coins in such a find is of course only the date of deposit. The coins do not always have to be regarded as contemporary with any accompanying "Ingot-currency", which, as the present discussion will show, is often likely to be older, and indeed substantially so.

The hypothesis is at first sight attractive that the finds of the Achaemenid period described above, no less than that from the seventh century B.C. site of Nūsh-i Jān, had, as earlier students supposed literally formed the stock-in-trade of silversmiths, who would have accumulated such metal for the manufacture of their wares. This was indeed one of the two hypotheses envisaged by the excavator in his preliminary note on the find. Yet in spite of the arguments there cited in favour of an explanation on these lines of the find from Nūsh-i Jān, 13 the present writer believes that even stronger reasoning can be assembled in favour of the excavator's second hypothesis: namely, that these miscellaneous pieces of silver performed the function of an early currency. At Nūsh-i Jān, as in the case of other finds, it is plain that the silver jewellery is in process, not of construction, but of destruction. On these, and other lines, a strong case has been made in recent years that such accumulations of "Bulk-silver" from the Achaemenid period in themselves constituted the medium of exchange, being weighed out as required upon the scales. 14 Not only a silversmith, therefore, but any person possessing a reserve of wealth could have held it in this form. The new evidence from Nūsh-i Jān further helps to demonstrate, if these views are accepted, that the monetary use of "Bulk-silver" arose well before the Achaemenid period. As we shall see, it can be regarded as a survival from an earlier phase in the history of currency, which lasted on under the Achaemenids in the face of increasing competition from the Hellenic innovation of coined silver. Thus the once-prevalent description of "Silversmith's hoard" should be understood as no more than a picturesque and popular designation; and the excavator's second hypothesis accepted, which refers the find of Nūsh-i Jān, with those of the Achaemenid period, to the wider, monetary, context.

- <sup>5</sup> A good specimen appeared in the Taranto Hoard, E. Babelon, "Trouvaille de Tarante", Revue Numismatique XVI (1912), 3.
- <sup>6</sup> The casting of silver in jars is noticed by Herodotus III, 96, whose ingots seem likely to have been larger than those reported in the finds. We shall return to the question of 'Cake-ingots' below.
- 7 Schlumberger, op. cit. 31–35.
  8 E. S. G. Robinson, "A 'Silversmith's hoard 'from Mesopotamia", Iraq XII (1950), 44-51; G. K. Jenkins, "Coins from
- the collection of C. J. Rich ", BMQ XXVIII (1964), 90.

  C. F. A. Schaeffer, "Une trouvaille de monnaies archaiques grecques à Ras Shamra", Mélanges Syriens offerts à Monsieur René Dussaud I, Paris 1939, 461-487.

  10 E. S. G. Robinson, "A hoard from Sidon [Beni-Hassan]",
- Numismatic Chronicle 1937, 197-9. Fuller references to this, and the two succeeding finds may be found through S. P. Noe, A bibliography of Greek coin hoards, 2nd ed. New York 1937, under the several site-names. Note especially H. Dressel and K. Reg-

- ling, "Ägyptische Funde altgriechische Münzen", Zeitschrift für Numismatik XXXVII (1927), 1-138, the classic exposition of this whole subject.
- <sup>11</sup> M. Balmuth, "Monetary forerunners of coinage in Phoenicia and Palestine" in International numismatic convention: Jerusalem 27-31 December 1963, Tel Aviv 1967, 25-32.
- <sup>12</sup> As in the case quoted by Jenkins, see n. 8 above.
- 13 D. B. Stronach, Iran VII, 16: "Any cache that was being stored for its intrinsic value would almost certainly have included other cherished materials, particularly gold if not also agate and carnelian." Yet just the same argument could be invoked in the contrary sense: on the one hand a jeweller could equally have used a stock of gold and semi-precious stones; on the other, a preference for silver as the medium of exchange could have arisen from its greater convenience for moderate values, wider familiarity in the area, and consequent acceptability.
- 14 cf. Dressel and Regling, Z.f.N. XXXVII (1927), 12; Robinson NC, 1937 p. 198.

#### The Problem of an Assyrian Coinage

Coinage has been defined as a medium of exchange in metal, prepared in units of accurately standardised weight, and marked with the stamp of an authority by whom their accuracy and fineness had been guaranteed. In this precise sense the view has prevailed amongst numismatists that coinage was developed around 640–630 B.C., either in Lydia or Ionia, 15 but at any rate in Asia Minor. The earliest coins were therefore those struck in electrum, the natural alloy of gold and silver, which afterwards came to be compounded artificially. Some decades later, silver was put to use for coinage in European Greece, in the first place on the island of Aegina.

That coinage should not have been in use by the developed civilizations of Babylonia and Assyria has often occasioned surprise, and indeed incredulity. Passages have been cited from cuneiform tablets which seem to imply the existence of something approaching a real coinage, as when payments in silver are described as being in "Heads of Ishtar", "Heads of Shamash" or "Heads of Ashur", translations which all suggest the existence of currency units stamped with such motifs. Again, tablets from Anatolia are quoted as referring to payments in "sealed silver", though not all authorities are agreed that the phrase necessarily refers to silver pieces marked with some sort of impression. It is best not to overstress such purely verbal interpretations of the Akkadian phrases. A layman could suspect, in the absence of material evidence to the contrary, that such expressions as "Heads of Ishtar" had a purely abstract sense, possibly implying capital funds from the temple of Ishtar. Only material evidence, so far wholly lacking, of the actual existence of pieces bearing these motifs, could put the old interpretations beyond doubt, and provide a firm base for this view of Assyrian, even Babylonian, currency.

Yet if evidence must be treated as inconclusive for the existence of true coinage in ancient Mesopotamia, and indeed later in the kingdom of the Medes, the same cannot be said of simpler forms of currency. Cuneiform texts are replete with references to the media of exchange. Barley, gold and lead, are occasi onally mentioned, but by far the most generally used substance, especially in the later periods was silver. Normally, it was weighed out upon the scales, a procedure requiring indeed a generally recognised system of weights, but one which did not necessitate the manufacture of the metal in units of specific weight or form. At the same time, it will naturally have been convenient to prepare the metal used in business transactions in more or less conventional forms which could be easily handled. A classic summary of textual evidence on this point comes from Bottéro's edition of the Mari tablets: 19

Il ne s'agissait évidemment pas de monnaie, au sens moderne du mot: pièces de métal réservées à l'échange, dont le pois et la valeur constants auraient été garanties par un controle et une estampille réservés à l'Etat . . . Pour autant que nos textes nous permettent d'y voir clair, l'argent devait être cependant découpé en morceaux suffisamment réguliers, que l'on pouvait peser, commes nous l'avons vue, en sicles et même en grains. Peut-être ces morceaux affectaient-ils souvent des formes usuelles, anneaux sourtout (hullu et principalement šewêru), peut-être aussi hachettes (hazzinu); la notion de kaspu šebirtu s'éclaire alors: il s'agit sans doute de métal en morceaux informes, c'est-à-dire non coulé en anneaux, barres, hachettes ou vases: donc plus volontiers en rognures, grenaillé ou cisaillé.

From the literary evidence of cuneiform texts we may turn to that of actual finds containing silver in these, and possibly other, specific monetary forms. By comparison with the much larger number of finds attributable to the Achaemenid period on the evidence of accompanying coins, the material for the Assyrian period seems sparse. Yet it is enough to supply a background to the large and well-documented find from Nūsh-i Jān.

<sup>&</sup>lt;sup>15</sup> E. S. G. Robinson, "The date of the earliest coins", Numismatic Chronicle 1959, p. 8.

<sup>&</sup>lt;sup>16</sup> C. H. W. Johns, Assyrian deeds and documents II, Cambridge 1901, 286 ŠAK-MEŠ ša Ishtar; p. 108, Ashur.

<sup>&</sup>lt;sup>17</sup> British Museum, Dept. of Egyptian and Assyrian Antiquities, Cuneiform texts from Cappadocian tablets I, 1921, 10; 12: "probably implies a loan for which the borrowers sealed a document". Seton Lloyd, Early Anatolia 1956, 118 understood the phrase as indicating silver handed out in sealed packages.

<sup>&</sup>lt;sup>18</sup> C. H. W. Johns, Assyrian deeds and documents II, 274; C. Fossey, "Les rapports de valeur entre l'argent et divers métaux sous la dynastie Chaldéenne", Revue des études semitiques VI (1937), 42-45.

<sup>&</sup>lt;sup>19</sup> Jean Bottéro, Textes économiques et administratifs (archives royales de Mari), Paris 1958, p. 332. In a later passage, p. 353, he explains that the axe-ingots (hazzinu) would have been of copper, and the other objects in silver.

Well-known is the find from Zincirli, which contained three large "Cake-ingots", accompanied by a number of small cast silver blocks of irregular weight.<sup>20</sup> The largest of the "Cake-ingots" at 497·38 gm. falls close to the standard of the Babylonian mina, which under the subsequent Achaemenids at least, approached 504 gm. These ingots are inscribed in Aramaic with the name of a local ruler, BRRKB BR PNMW, who may be dated around 712 B.C. Since "Cake-ingots" are also known from Ras Shamra,<sup>21</sup> and several of the Egyptian finds, the possibility arises that they may be ascribable to a definite area of distribution, around the western fringe of the Fertile Crescent. To this question of distribution-areas we shall shortly return.

More closely comparable, however, with the find from Nūsh-i Jān, and evidently nearer in date, was that uncovered in 1908 by the German excavators of Assur. Here the city's destruction in 614 B.C. provides a lower limit for the deposit, and one not far removed from that suggested on other grounds for the site of Nūsh-i Jān. To the present writer's knowledge the material from Assur has never been the subject of a detailed publication, and indeed its present whereabouts is something of a mystery. None the less, its summary description in the preliminary report of Andrae is enlightening for our purpose:<sup>22</sup>

Ein Topf mit Hacksilber wurde in dD9IV gefunden. Wieder sind hier, wie schon bei früheren Funden dieser Art, Rohgussplatten und aus solchen gehackte kleinere und kleinste Stücke, sowie dünne, geglättete Blechstücke, drahtstift- und ringformige Stücke, zu unterscheiden, ein weitgehende Abstufung des Gewichts, die es mir wahrscheinlich macht, dass das Silber, zum Zuwiegen zerkleinert, als Zahlungsmittel, d.h. als Geld, gedient hat.

It does not appear that after Andrae's account, the ingot-find from Assur was ever again available for study. In fact the present writer could not establish whether it passed unnoticed into one of the German collections, or was lost to sight during the 1914 war in Mesopotamia. None the less, this brief account is helpful in providing a clear chronological horizon, with stratigraphic indications plainly placing the find before the rise of the Achaemenid Empire. After the find from Assur, we turn directly to that from Nūsh-i Jān.

#### The Contents of the Nush-i Jan Find

We have already seen that the treasure of silver was discovered in a bronze bowl, illustrated in Pl. IIIc. The treasure consisted of certain pieces of jewellery, and ingots of silver here interpreted as monetary. Understandably, in the state of society where every fragment of silver has direct monetary value, a distinction between jewellery and currency is not always easy to draw. The earrings and beads of the present find, though they had once served the purpose of jewellery, at the time of their deposit had already been broken up, and seem to have been performing a monetary function like the remainder. None the less, since their primary purpose was that of adornment, it is in that context that they are best examined.

With regard to the residue of the hoard, the simplest classification is to divide the pieces of which it is composed into three categories on the basis of their form. The first category, of which complete examples have not been reported from any previous find, may be designated as "Bar-ingots". Of these, only three are intact. Others have been divided into portions of various sizes. The three complete specimens differ notably in shape (Pl. I, A1, A2 and A6), and, in the case of A6 (150B), which is especially small, also in weight. The divided specimens further help to confirm that there was not any single uniform pattern. Evidently such ingots were not cast by repeated use of a single mould, but at this stage each was made from an individual mould, presumably of clay, which was broken or abandoned after the casting of each single bar. As already noticed, complete bar-ingots have not been reported in the numerous finds of "Bulk-silver" from the Eastern Mediterranean. At the same time, the present find contains no example of a "Cake-ingot". This situation raises the possibility of a distinction

<sup>&</sup>lt;sup>20</sup> Felix von Luschan, *Die Kleinfunde von Sendschirli* (Ausgrabungen in Sendschirli V), Berlin 1943, 119–121.

<sup>&</sup>lt;sup>21</sup> C. F. A. Schaeffer, "Une trouvaille de monnaies archaiques grecques à Ras Shamra", Fest. René Dussaud I, 462 and 486.

Their weights of 274.5 gm., 217.50 gr. and 185.5 gr. are not immediately informative.

<sup>&</sup>lt;sup>22</sup> W. Andrae, Mitteilungen der Deutsche Orient-Gesellschaft XXXVI (1908), 22.

between the circulation areas of the two currency-forms; it is possible that the "Cake-ingot" was characteristic of the Syrian-Egyptian area, and the "Bar-ingot" of a region further to the East, including, so it seems, the Iranian Plateau, and the eastern margins of the Assyrian world.

Though the find evidence for any general theory of circulation-areas remains for the time being slender, it is markedly strengthened by indications to be derived from the currencies of Ancient India. As is well known, one of the earliest forms of Indian currency is that designated the "Bent-bar" coinage. Twelve specimens were already represented in the find of Chaman Huzūrī, Kabul, of which the deposit is placed towards 380 B.C.<sup>23</sup> In the Chaman Huzūrī find the familiar "Punch-marked" coinage, some of which, at least, belongs to the empire of the Mauryas (3rd Century B.C.) was notably absent. This fact tended to confirm the conclusion of Allan that the "Bent-bars" belong to the fourth or even the fifth century B.C.<sup>24</sup> It was also once observed of the "Bent-bars" that "all of these coins which are of known provenance come from the area over which Persian influence extended".25 Now with the appearance of "Bar-ingots" in the ancient Median context at Nūsh-i Jān, the possibility presents itself that currency in the form of bars circulated on the Iranian Plateau and eastwards well before the rise of the Achaemenids, and that the Indian "Bent-bar" coinage represents a development from this. The "Bent-bars" are of course adjusted to a standard weight, and stamped with the "six-armed symbol" which no doubt represents some unknown issuing authority. Circular coinage of the Greek type is thought to have been inaugurated on the Iranian Plateau no earlier than the reign of Seleucus I (312 B.C.)<sup>26</sup> so that the hypothesis can easily be entertained that bar-currency had remained in use there from Median times down to the close of the Achaemenid period. Thus there emerges the vista of a wholly unknown province of ancient numismatics.

Attractive though these speculations must seem, at this point in the inquiry the gap between the find evidence of the 7th century B.C. at Nūsh-i Jān, and that of Chaman Huzūrī from the 5th century B.C. naturally seemed a perilous one. It was therefore particularly gratifying, during the writer's visit to Kabul in 1969 in the course of study-leave already mentioned, that material came to notice partially bridging the gap. Whilst occupied in the examination of the coins from the Mir Zakah hoard in the Kabul Museum,<sup>27</sup> the writer's attention was drawn to a small group of residual items, 22 in number, manifestly intermediate between the Median bar-ingots and Indian "Bent-bars". Nineteen of these ranged in weight from 12.76 gm. to 8.34 gm. (the last, of course, being the effective weight of the Babylonian shekel, as exemplified in the gold Daric coinage of the Achaemenids). These pieces all had the form of a straight bar; but whilst two bore traces of the regular "six-armed symbol" characteristic of the "bent-bars", the rest were unstamped. Thus they indicated a clear transition from a plain barcurrency to a stamped bar-coinage of the Indian type. Most striking, perhaps, was the plain bar weighing 8.34 gm., as already mentioned. Its shape, with the enlarged ends, was reminiscent of the "Bar-ingot" A1 (146) from Nūsh-i Jān—the "dog's-bone profile", to use a convenient phrase—but the size was much smaller, the surfaces had been finished by hammering, and the reduced weight at 8.34 gm. was surely indicative of manufacture under the Achaemenids. The "Bar-ingots" of the Mir Zakah residue plainly deserve close study, and cannot be examined in detail here, but a brief notice is necessary for the present discussion.

#### "Cut-silver"

The second category of pieces in the find from Nūsh-i Jān is that well known from the German publications as *Hacksilber*, which we here render by the English translation of "Cut-silver". These are pieces of silver cut with a cold chisel from lengths of varying size and shape. Some are pieces of silver foil, roughly cut, and squeezed into lumps. Others are cut from pieces of wire of varying thickness. The most characteristic are however thickish blocks of silver, most of which have clearly been cut from

<sup>&</sup>lt;sup>23</sup> D. Schlumberger, "L'argent grec dans l'empire Achéménide", in Curiel and Schlumberger, Trésors monetaires d'Afghanistan, p. 4.

<sup>&</sup>lt;sup>24</sup> John Allan, British Museum Catalogue of the Coins of Ancient India, p. xvi.

<sup>&</sup>lt;sup>26</sup> E. H. C. Walsh, *Punch-marked coins from Taxila* (Memoirs of the Archaeological Survey of India No. 59), Delhi 1939, p. 2.

<sup>&</sup>lt;sup>26</sup> E. T. Newell, Eastern Seleucid mints, p. 162.

<sup>&</sup>lt;sup>27</sup> Raoul Curiel and Daniel Schlumberger, "Le trésor de Mir Zakah, près de Gardēz" in Curiel and Schlumberger, Trésors monétaires d'Afghanistan, p. 67 ff. Since this find was the product of a sacred spring, frequented over many centuries, its content covered a wide chronological range, and the upper limit has perhaps never been closely defined.

"Bar-ingots". Thus we see that the significance of the "Bar-ingots" extends beyond the three intact specimens occurring in the present find. It becomes increasingly obvious that in the Achaemenid hoards of "Bulk-silver" also, a great deal of the "Cut-silver" must have been derived originally from "Bar-ingots", so that the currency of the latter must have been more extensive than at first appears. The implication seems to be that the period in which "Bar-ingots" circulated intact was a relatively early one. At some moment in time which is not easy to fix precisely, but which was no doubt during the Achaemenid period, and perhaps towards the beginning of the 5th century B.C., the casting of fresh "Bar-ingots" seems to have been discontinued. Those previously current naturally remained in circulation, and they were progressively subdivided for the purposes of day-to-day transactions as time went on. Thus gradually all the surviving "Bar-ingots" will have been reduced to "Cut-silver", and the latter in turn to smaller and smaller pieces. This "Cut-silver" seems to have achieved a wider circulation than the original bars, and also to have proved a more lasting phenomenon. While the bars were perhaps restricted to the territory of the former Median empire, the "Cut-silver" seems to have been acceptable throughout Achaemenid territory, even far to the West.

Since much of the "Cut-silver" was derived from "Bar-ingots", it is not easy to maintain a rigid distinction between the two categories. Where the origin is obvious, I have classed the pieces as "Bar-ingots". Where there is room for doubt, I have listed them as "Cut-silver", even where it would be reasonable to suppose that a piece had been derived from a bar. This point should be borne in mind when searching the catalogues for a particular item.

A special point of interest in the present find is that one of the pieces of "Cut-silver" [B28(97b), wt. 4.64 gm.] bears traces of a fragmentary cuneiform inscription. Professor John A. Brinkman, of the Oriental Institute at Chicago has very kindly offered to contribute a note on these cuneiform traces, which is printed on p. 107 below.



Fig. 1. Nūsh-i Jān hoard: 'Cut-silver' fragment B.30 with cuneiform traces.

Because of its very fragmentary nature, the full purport of the Akkadian inscription in the present case cannot easily be established. However, it is clear since the inscription is itself fragmentary, that the "Bar-ingot" from which this block was originally cut had already been inscribed before it was subdivided. Thus it seems that some of the "Bar-ingots" were made with appropriate inscriptions, and therefore hope exists of a complete inscription being eventually recovered, from which further deductions may become possible on the working of the system of "Bulk-silver". A block so inscribed naturally brings to mind that from the Chaman Ḥuzūrī find at Kabul, with its Elamite inscription elucidated by the late Professor W. B. Henning.<sup>28</sup> The only comment on the latter's view suggested by the piece from Nūsh-i Jān is that the Kabul block may likewise (in view of its substantial thickness) have been cut not from a piece of tableware, but from a "Bar-ingot" which once bore the full Elamite inscription. If so, the bar itself presumably originated during the

Achaemenid period, and would help to fix the lower time-limit for this medium of currency.

#### " Ring-money"

The third category of pieces occurring in the Nūsh-i Jān find may be described as "Ring-money". They vary considerably both in form and weight, the latter from a maximum of no less than 220 gm. to a fraction of a gram, but it seems practical to group them all together. Literary evidence for the existence of "Ring-money" in ancient Babylonia has already been mentioned, but actual specimens seem not to have been systematically studied, nor the working of the system explained. The present find presents especially rich material for the study of the question. Certain groups of the rings seem to be of standardised form, and the question must be considered whether their weights were also intended as standardised. As to their shape, several of the rings are rough and irregular, and would not have served the purpose of adornment. Others could possibly have possessed some function as jewellery.

<sup>&</sup>lt;sup>28</sup> "The 'coin' with cuneiform inscription", Numismatic <sup>29</sup> Above, p. 99. Chronicle 1956, 327-8, where the earlier references will be found.

The group already noticed have some resemblance to earrings, but they have not been decoratively worked, and such spiral rings could hardly have been inserted into pierced ears without much discomfort. For wear, slender hooks would also have been needed, as indeed have been present in other finds.<sup>30</sup> More probably, therefore, the main rôle of these rings was monetary. We are reminded of the gloss of Photius, to which attention has already been drawn by Schlumberger:<sup>31</sup>

σίκλος και τὸ ἐνώτιον και σταθμὸς βαρβαρικός, δυνάμενος ὀκτώ ὀβολούς 'Αττικούς.

siklos: (signifies) both an earring and an Oriental weight equivalent to eight Attic obols.

If the Attic drachma, equivalent to six Attic obols, is reckoned at 4.2 gm., then eight Attic obols would amount to 5.6 gm., a weight which indeed corresponds with that of the Persian silver coin known as the siglos. It remains to be verified whether quasi-monetary earrings of the type considered here approximate to the same weight of silver.

The possibility may also be considered whether some of these rings could not have been worn as finger-rings. Several of the spiral rings are of dimensions roughly suitable for that purpose. Again, there are two wider rings included in the find, C12 (141) and C5 (145), which have a pronounced resemblance to modern wedding-rings, and could certainly have been worn. It is often claimed that in the modern marriage ceremony, the use of the wedding-ring has a monetary significance, and that it was originally the equivalent of a "bride-price". To explore this idea in detail would be a complex matter, but it seems true that in the period of our find, the boundary-line between jewellery and cash was particularly blurred, and the conditions postulated by the above assumption were to a large extent effective. Further evidence would naturally be needed before the rings of our find could be claimed as actual wedding-rings.

#### Numbering and Arrangement

It is a fact of museum life that objects in a collection tend to receive successive and different numbers at different stages in their museum history. Finds coming from excavations receive first excavation numbers, which normally follow the sequence in which the pieces have emerged from the soil. On entry to a museum they further receive accession numbers, usually in order of registration, with such modifications as the particular working routines require. When a systematic catalogue is ultimately compiled, a third system of numbering is almost inevitably imposed, on whatever basis seems most meaningful to the cataloguer. With regard to catalogue sequences, the preferences of succeeding generations may also differ, and recataloguing after a lapse of time is likely to produce a fresh crop of numbers. It can thus be a complex matter to follow a numbered find through different catalogues and registers. In the present case also, attention must be given to numbering and concordance. It is true that the numismatist is usually spared undue dependence on arbitrary numbers owing to the strong chronological thread which pervades his subject and makes it possible, once the identification is made, to go straight to the piece in question without reference to any numerical code. However, with "Ingot-currency" such as the present find, there is no immediately manifest chronological order, and a serial enumeration is therefore necessary. At the time of excavation the pieces were registered in the order of their emergence from the ground, and these numbers retain their value for designation of individual pieces. The portion of the find which passed at the time of division to the Mūzeh Īrān Bāstān retains with but minor modifications its excavation numbering, and so needs no special concordance. It may be noticed that it is by no means easy, even from a photograph, to distinguish from one another the numerous, generally similar rings. Where the number can be inked on, or a label attached, this has usually proved helpful. The additional check afforded by a record of weights is none the less an advantage, and for systematic

<sup>&</sup>lt;sup>80</sup> e.g. at Shechem, cf. M. Balmuth, "Monetary forerunners of coinage in Phoenicia and Palestine", International Numismatic Convention: Jerusalem, 27-31 December 1963, Pl. I.

<sup>31</sup> D. Schlumberger, "L'argent grec dans l'empire Achéménide"

in Curiel and Schlumberger, Trésors monétaires d'Afghanistan,

<sup>&</sup>lt;sup>32</sup> For example in the Jewish ceremony, according to Encyclopaedia of Religion and Ethics VIII, 462.

arrangement in the present article the handiest method seemed to be to arrange the pieces in three main sections (A. Bar-ingots; B. Cut-silver and C. Ring-money); and within each to arrange the pieces in descending order of weight. Thus a fixed sequence is attained, which virtually excludes the need for any qualitative decision by the cataloguer, and in the event of accidental disarrangement, can be immediately restored merely by reference to a balance. Since the main historical indications provided by this "Bulk-silver" arise from the metrology, the arrangement by weight makes these immediately evident, and has much to recommend it as a practical solution to the problems of classifying a find of this rather unusual nature.33 The catalogue is therefore arranged in the manner described, and a concordance of the original excavation numbers is provided at the end of the article. I owe to Dr. O. Muscarella, of the Metropolitan Museum of Art, New York, registration details of the pieces which passed, after the division into his custody.

#### The Metrology of the Ingots

It is no exaggeration to say that the heart of any study of an ingot find such as that of Nūsh-i Jān must be the section dealing with its metrology. Investigators who have touched on this matter in the past have tended to the conclusion that the weights attested are purely random ones,34 and if this view were shown to be correct, we could expect no conclusion of interest to result from an analysis of weights in this particular case. In view of previous negative results, however, it need not be expected that any significant pattern will be a simple and obvious one. At the same time, it has to be borne in mind that methods of examination applied in earlier cases were admittedly insensitive. For seeking to ascertain a possible weight-standard in an assemblage of irregular metal ingots, the method of averaging cannot be too strongly deprecated. It is a well-known witticism that a gathering of five four-year-old infants and five octagenarians have an average age of 42. Yet it would be misleading to conclude from that statistic that any person actually aged 42 (or anything approximating to it) would therefore have been present. Similarly in the determination of weight-standards, the calculation of the average may give a useful result when a single, uniform weight-standard is present in the whole material. Yet even in dealing with regular coinages where such a situation prevails, numismatists have preferred to employ the technique of the frequency-table. Where multiple standards may be present, or multiple denominations of a single standard, the frequency-table is the only reliable method. Indeed the manner of its arrangement and presentation demands some care, a matter to which we shall return after examining some more general considerations.

It has been noticed above that in investigating a currency that lacks any mark of origin, the metrology alone—leaving aside possible future investigation of trace-metals by spectroscopic analysis—offers hope of elucidating the mechanism of the system, and arriving at historical conclusions. We must face the possibility that our inquiry may prove unavailing. Yet the prospect of a wholly new insight into the economic history of the Assyrian and Babylonian worlds cannot lightly be dismissed. If the weightstandards can be shown to have evolved in a chronological sequence, the weighing of an ingot would henceforth give an indication of its date. This is by no means a far-fetched suggestion. It has already been proved of the siglos coinage of Achaemenid Anatolia that only weighing will determine the chronology of certain issues.<sup>35</sup> On the other hand, weight-standards could well show a geographical distribution, and the balance provide indications of the direction and volume of trade. In practice, as in the history of coinage, both factors are likely to operate to a certain extent, and the task of unravelling them could prove a complex, yet informative, inquiry. It would also be interesting to know whether any consistent relationship exists between the weight-standards, and the three classes of material, "Baringots", "Cut-silver" and "Ring-money".

<sup>38</sup> The method of arrangement of a find of "amorphous" currency in diminishing order of weight seems first to have been used by Professor D. Schlumberger for the 29 " countermarked coins" of the Chaman Ḥuzūrī hoard at Kabul, cf. 'L'argent grec dans l'empire Achéménide" in Curiel and Schlumberger, Trésors monétaires d'Afghanistan p. 42.

4 e.g. M. S. Balmuth, "The monetary forerunners of coinage in

Phoenicia and Palestine "in International Numismatic Convention: Jerusalem 27-31 December 1963 p. 28 "The only conclusion possible after weighing and observing the hoards from Shechem and Beth Shan is that no weight relationship exists amongst the ingots and that they could be negotiable only by mass"

<sup>35</sup> E. S. G. Robinson, "The beginnings of Achaemenid coinage", Numismatic Chronicle 1958, p. 191.

It is usually allowed that the metrological systems of ancient Mesopotamia were internally organised in the majority of cases, on a sexagesimal system:

60 shekels = 1 mina 60 minae = 1 talent

Cuneiform texts make constant reference to these denominations and their numerical relationship. The matter is less simple when it comes to determining the absolute values of these denominations in any particular period or location. In practice, the most successful technique for this purpose is the examination of surviving ancient weights, some of which bear inscriptions which are more or less informative, though they do not always specifically name the denomination.<sup>36</sup> Best known of the weight-standards current in Mesopotamia during the pre-Achaemenid period is the Babylonian standard. It is, however, most easily determined from the material of Achaemenid date, when fundamentally the same standard was in use, and when the value of the shekel was close to 8·4 gm., and that of the mina to 504 gm. No doubt difficulties were experienced in antiquity in precisely standardizing the weights, and specimens from excavation may often have suffered from the fraudulent manipulation of which there is biblical evidence.<sup>37</sup>

In addition to the familiar Babylonian standard, the bedrock as it were of ancient metrology, there is considerable evidence, especially in Assyrian times, of the existence of competing systems. There are numerous references to a weight-standard "of the King", 38 and on the evidence of inscribed weights from Nimrud, its mina has been reckoned at approximately double the Babylonian at some 1010 gm., 39 which would result in a shekel (assuming the proportions unchanged) of 16.8 gm. Whether such a standard remained constant throughout the Assyrian Empire, and in all periods, is a question for investigation. There is anyway cuneiform evidence for the existence of local standards —which implies that they were different—and for the area of Palestine a clear case has been made from the evidence of excavated weights for a shekel of 11.4 gm. 41 The latter finds were linked by Yadin with the Samaria ostraca, ascribed to the date of 738 B.C. It therefore appears that quite a variety of shekel standards may have been current at different dates and places, though there is no certainty that all of these would have been employed for the weighing of silver.

After these preliminary remarks, we may turn to the frequency-table (fig. 2). The data are presented in six parallel ranges, with the scale of each varied proportionately, so that the increasing multiples of the same standard appear conveniently in the same horizontal line. It will be seen at a glance that the weights show a good deal of irregularity, evidence perhaps of unreliable scales, and where the pieces are cut, of imprecise cutting. It is true that there is no massive coincidence in weights that would attest the presence of a single rigid standard. Nevertheless, it can hardly be said that the distribution pattern is a random one. In the two highest ranges there are relatively few specimens, as we might expect. Yet such evidence as the chart does provide is surprisingly coherent. There are two intact bar ingots coinciding closely at a little over 100 gm. The largest piece of cut-silver falls at 51·43 gm., <sup>42</sup> and there is a neat concentration of items around the 24 gm. mark, all of which decidely suggests a range of multiples of 6 gm., 12 gm., 24 gm., 50 gm. and 100 gm.

The next point to be made is that out of 83 specimens displayed upon the table, no less than 32 fall in what we have designated the Half-Shekel Range, and 22 in the Shekel Range. It is of course evident from the cuneiform documents that the shekel and the half-shekel would have been the most popular denominations in any currency system. The latter in particular, best known under its Aramaic name of zwz, and the ancestor of the Greek drachma, would have been a convenient piece in ordinary shopping.

- <sup>36</sup> Perhaps the fullest discussion of the older evidence for Assyrian weight-standards is that of C. H. W. Johns, Assyrian deeds and documents II, 256-73; Sir Max Mallowan, Nimrud I, 326 and 338, mentions a half-mina of 250·7 gm., and calls attention to the need for a fresh investigation.
- <sup>87</sup> Deuteronomy 25. 14: Thou shalt not have in thy bag divers weights, a great and a small.
- 38 II Samuel 14. 26:... two hundred shekels after the king's weight.
- 39 Johns, op. cit. II, 262.
- <sup>40</sup> Balmuth, op. cit. p. 26 (where the preceding, and further references will be found); Johns, p. 269.
- <sup>41</sup> Yigael Yadin, "Ancient Judaean weights and the date of the Samaria ostraca", Scripta Hierosolymitana VIII, 10 ff.
- <sup>42</sup> It is interesting in this connexion that the single aberrant weight in Yadin's table (op. cit. p. 12), that from el-Jib, weighed 51·58 gm., though the norm of his 4-shekel range was between 45 and 46 gm.

Turning now to the question of specific weight-standards, we see groupings in the shekel range at a little over 12 gm., between 11 and 11.5 gm., between 9.5 gm. and 10 gm., and, perhaps, around 8.5 gm. The second coincides well enough with the Palestinian shekel demonstrated by Yadin, and the last falls close to the Babylonian shekel of Achaemenid times. The other two, though unknown, are quite conceivable shekel standards, and can hardly be dismissed as meaningless. Taking next the half-shekel range, there are evident groupings around 6 gm., and again at 5.6 gm. (the last figure, of course, is known later as the Achaemenid siglos, though the name is something of a misnomer, since rather than a shekel the coin is better regarded as a zwz or drachma, of which the weight represented a key figure for the cross-rates between gold and silver in Achaemenid times<sup>43</sup>). Disregarding a few stragglers, a further

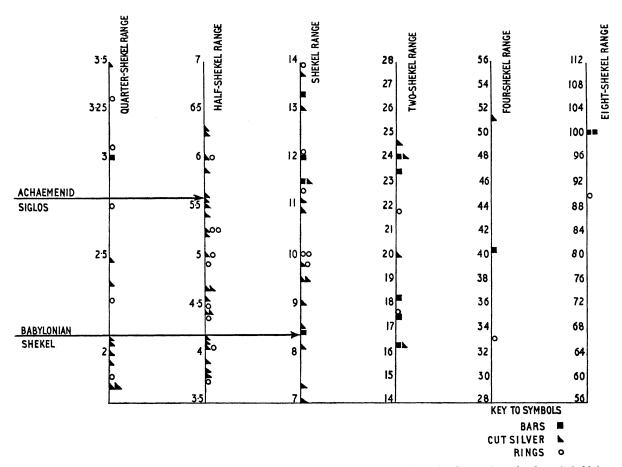
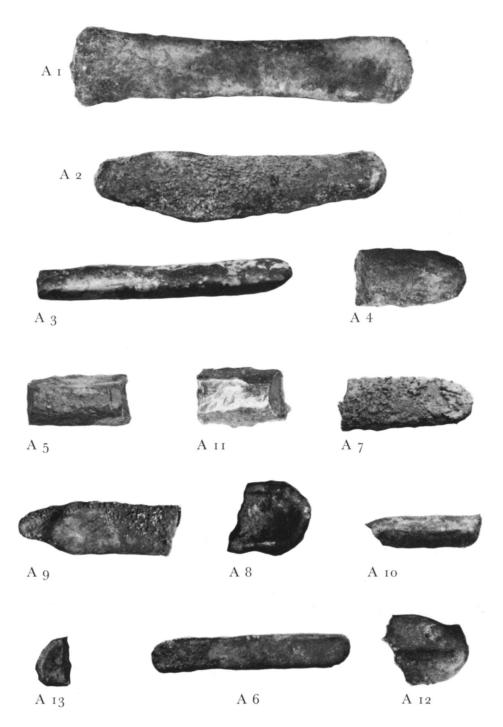


Fig. 2. Nūsh-i Jān hoard: frequency-table of weights between 112 gm. and 1.75 gm. The scale of grams in each column is half that of the column preceding.

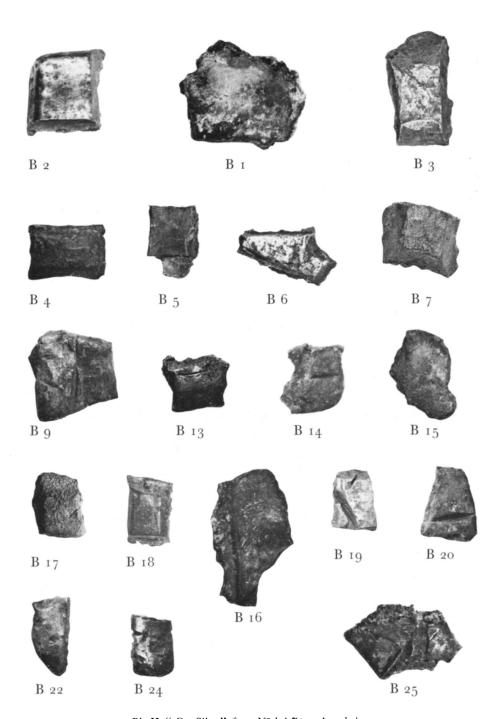
seeming concentration is found at 4·4 gm., very close to the half-shekel of the Achaemenid Babylonian standard. There is another peak at 3·8 gm., then something of a gap, and a further small concentration at 2·1 gm., which presumably represents the quarter-shekel corresponding to the half at 4·4 gm. It may be noticed at the same time that there is no clear separation between the standards exemplified by the "Cut-silver", and those of the rings.

In conclusion therefore, it may be said that the frequency-table indicates a certain irregularity of weight, as might be expected if the ingots had been cut to size by eye, rather than by some precise measurement. Yet the distribution of weights is by no means random. It may rather be the result of the attestation in the find of a series of varying weight-standards, some perhaps representing local shekels of

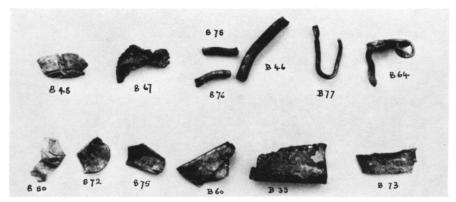
<sup>48</sup> Since 20 sigloi were intended to correspond in value to the gold daric of 8·35 gm., cf. E. S. G. Robinson, "The beginnings



Pl. I. Bar-Ingots and Fragmentary Bars from Nūsh-i Jān. Actual size.



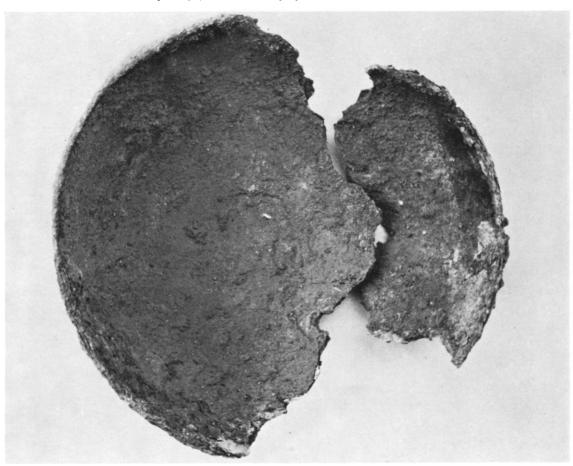
Pl. II. "Cut-Silver" from Nūsh-i Jān. Actual size.



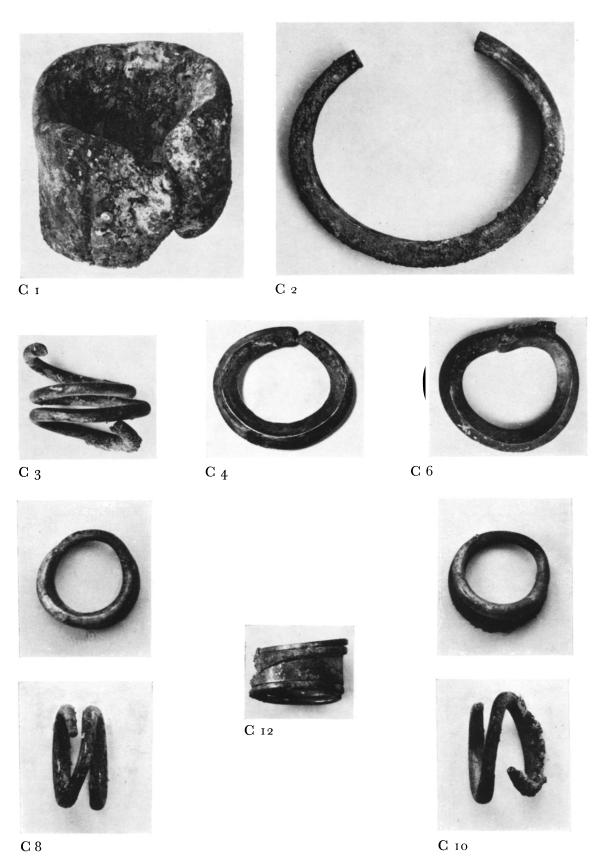
Pl. IIIa. Nūsh-i Jān, 1967. Small "Cut-silver" (wires and foils). Scale 1/1.



Pl. IIIb. Nūsh-i Jān, 1967. Miscellaneous fragments under Excavation No. 167. Scale 1/1.



Pl. IIIc. Nūsh-i Jān, 1967. The bronze bowl containing the treasure.



Pl. IV. Nush-i Jan, 1967. Ring-currency, large and small denominations. Actual size, except for C8 and C10, which are slightly enlarged.

areas from which the ingots may have been brought, and others progressive changes in the "Royal" standards. Hitherto, for want of evidence either way, there has been a tendency to assume that such "Royal" standards as that of the Assyrian kingdom remained a fixed and unchanging value. What is known of the economic history of other periods in antiquity hardly corroborates this view. The frequency-table of any mixed hoard of 5th century Greek coinage would illustrate a scatter of weight-standards and denominations not dissimilar to that presented here. Between the standards of ancient Mesopotamia, and those (varying widely) established in Classical Greece there are in all probability historical connexions, as such Semitic loan-words as µvâ for the mina evidently attest. Further such finds will need to be published, and systematically analysed, before any general conclusion would be justified. Yet it may well prove, and the present material suggests, that the metrology of ancient Mesopotamia was but little less complex than that of every other period in human history.

#### THE INSCRIBED SILVER FRAGMENT FROM NUSH-I JAN (Fig. 2), by J. A. Brinkman

The small piece of metal bears traces of markings which are probably to be interpreted as fragments of cuneiform signs. The most definite traces are what appear to be the left sections of two horizontal wedges, consisting in each case of a wedge head and the beginning of a tail, and a horizontal dividing line between them, presumably separating two lines of text. There are additional marks, or possibly scratches, on the metal which could point to slightly more complex signs than the simple horizontal wedge.

From these slight traces it is impossible at present to determine anything about context, type or date of script, or place of origin. One cannot at this time establish whether the "text" was written in Akkadian (Babylonian), Old Persian (or some forerunner), Elamite, or some other similar script.

#### CATALOGUE

~			7	•	
Section	A	:	Ва	r-ing	ots

Deciton 11. De	u-uigus			
Cat. No.	$\it Excavation \ No.$	Weight in grams	•	
Ат	146	100.70	New York 69.24.11	Pl. I
A 2	155	100.30	Tehran	Pl. I
A 3	117	40.70	Inst.	Pl. I
A 4	16í	24.00	Tehran	Pl. I
A 5	157B	23.50	Tehran	Pl. I
A 6	150B	18.31	London BM 135085	Pl. I
A 7	150A	17.58	London BM 135082	Pl. I
A 8	147B	16.42	Inst.	Pl. I
A 9	157A	13.40	Tehran	Pl. I
A 10	125C	12.19	Tehran	Pl. I
AII	140A	11.21	Inst.	Pl. I
A 12	163B	8.40	Tehran	Pl. I
A 13	135B	3.02	Tehran	Pl. I
Section B:	"Cut-silver"			
Ві	109	51.43	Tehran	Pl. II
B 2	143C	24.85	Tehran	Pl. II
В 3	143B	24.16	Tehran	Pl. II
B 4	133A	20.08	London BM 135074	Pl. II
B 5	112A	16.50	Tehran	Pl. II
В 6	143A	13.71	Tehran	Pl. II
В 7	140B	13.05	Inst.	Pl. II
B 7 bis	156I	11.56	Inst.	
В 8	98B	11.14	Inst.	
В 9	135A	10.87	Tehran	Pl. II
В 10	133B	9.80	London BM 135075	
Ви	118A	9.55	Tehran	
B 12	112D	9.54	Tehran	
В 13	110D	9.02	Inst.	Pl. II
B 14	99	8·51	Tehran	Pl. II
B 15	154C	8.21	Inst.	Pl. II
В 16	106	7:34	Inst.	Pl. II
В 17	154B	7.06	Inst.	Pl. II
В 18	162C 1	6∙30	Inst.	Pl. II
В 19	157C	6.25	Tehran	Pl. II
B 20	140C	6∙04	Inst.	Pl. II
B 21	156H	5·86	Inst.	
B 22	112B	5·60	Tehran	Pl. II
B 23	140E	5.56	Inst.	
B 24	140D	5.23	Inst.	Pl. II
B 25	154A	5.42	Inst.	Pl. II
B 26	127E	5.26	Inst.	-
B 27	127G	5.20	Inst.	
B 28	147A	5.04	Inst.	
B 29	111B	$\frac{3}{4} \cdot 67$	Inst.	

Cat. No.	Excavation ${\cal N}o.$	Weight in grams	Location	Plate
В 30	97B	4.63	Inst.	
				(see pp. 102, 107).
В 31	163A	4·58	Tehran	
B 32	112C	4.45	Tehran	
В 33	162D 7	4.42	Inst.	Pl. III
В 34	124B	4.17	Inst.	
B 35	120B	4.13	Tehran	
B 36	128D	4.05	Tehran	
В 37	121B	3.91	Inst.	*****
B 38	98 <b>A</b>	3·84	Inst.	-
В 39	128C	3.72	Inst.	
B 40	124A	3.45	Tehran	
B 41	125D	2.44	Tehran	
B 42	135D	2.30	Tehran	
B 43	125F	2.08	Tehran	
B 44	127D	2.06	Inst.	••••
B 45	162A 5	2.00	Inst.	
B 46 (wire)	162A 3	1.96	Tehran	Pl. III
B 47	156A	1.81	Inst.	
B 48	162G 2	1 · 80	Inst.	Pl. III
B 49	127C	1.73	Inst.	
B 50	127F	1 · 66	Inst.	
B 51	156F	1 · 64	Inst.	
B 52	97 <b>D</b>	1.54	Inst.	
B 53	97C	1.21	Inst.	
B 54	162C 2	1.45	Inst.	
B 55 (foil)	133C	1 · 42	London BM 135076	
B 56	127 <b>J</b>	1.37	Inst.	634496888
B 57	127H	1.35	Inst.	
B 58	135C	1.30	Tehran	-
B 59	156E	I · 27	Inst.	
B 60 (foil)	162D 1	1 · 26	Inst.	Pl. III
B 61	121C	I · 24	Inst.	
B 62	156K	1.24	Inst.	•
B 63	144B	1.50	Tehran	
B 64	162E	1.07	Inst.	Pl. III
B 65	162C 3	o·97	Inst.	
B 66	127I	o·96	Inst.	
B 67 (foil)	162F	0.92	Inst.	Pl. III
B 68	101C	0.82	Inst.	***********
B 69	118B	0.77	Tehran	
B 70	120D	0.67	Tehran	
B 71	127A	0.64	Inst.	DI III
B 72 B 72 (foil)	162D 5 162D 2	0.63	Inst.	Pl. III Pl. III
B 73 (foil) B 74	102D 2 107C	0·61	Inst. Inst.	11.111
B 74 B 75	167C 162D 4		Inst. Inst.	Pl. III
B 76 (wire)	162D 4 162A 2	o·57 o·48	Inst.	Pl. III
B 77 (wire	162A 4	_	Inst.	Pl. III
hook)	102114	0.45	AILU.	
B 78 (wire)	162A 1	0.42	Inst.	Pl. III
B 79 `	120C	0.40	Tehran	
B 80 (foil)	162D 3	0.27	Inst.	Pl. III

Cat. No.	Excavation No.	Weight in grams	Location	Plate
B 81	100C	0.25	Tehran	
B 82	127B	0.24	Inst.	
Section C: Ring	-money			
Ст	102	220.0	Tehran	Pl. IV
C 2	158	90.50	Tehran	Pl. IV
C 3 (coil)	107A	33.44	Inst.	Pl. IV
C 4	116	21.80	Tehran No. 134	Pl. IV
C 5	145	17.88	London BM 135085	
C 6	107B	13.92	Inst.	Pl. IV
C 7	134	12.12	Tehran	
C 8	поА	11.30	New York 69.24.6	Pl. IV
C 9	128A	10.07	Inst.	
C 10	юіА	10.00	New York 69.24.7	Pl. IV
C 11	126	9.88	London BM 135073	water-ren
C 12	141	6·00	Tehran	Pl. IV
C 13	100A	5.25	Inst.	
C 14	164	5.21	Inst.	
C 15	121A	5.06	Inst.	
C 16	97 <b>A</b>	4.85	Tehran	
C 17	137	4.48	Tehran	
C 18	152	4.38	London BM 135084	2000 Miles
C 19	128D	4.05	Tehran	-
C 20	125B	3.70	Tehran	
C 21	111A	3.30	New York 69·24·9	-
C 22	131	3.06	Inst.	
C 23	105	2.80	Tehran	
C 24	124C	2.27	Tehran	
C 25	144A	1 · 82	Tehran No. 141	******
C 26	148	ı ·60	New York 69.24.10	*****
C 27	120A	1.43	Tehran	
C 28	130	1.40	Tehran	
C 29	110B	1.30	New York 69.24.8	
C 30	144B	1.19	Tehran	
C 31 (broken)		o·95	Tehran	
C 32	110C	0.92	Inst.	
C 33	114A	o·80	Tehran	
C 34	128B	0.77	Tehran	
C 35	123	o·75	Tehran	
C 36	гооВ	0.75	Inst.	
C 37	165C	0.40	Tehran	
C 38 (broken)	) 114C	o·47	Tehran	

#### CONCORDANCE OF EXCAVATION NUMBERS

Note: Items classified as jewellery, to be published elsewhere, and not included in the present catalogue, are indicated by the letter J in this concordance.

96	J	112D	B 12	125D	B 41	133A	B4	150B	A 6	162C 1	B 18
		112E	B 69		J	133B	Вто	151	J	162C 2	B 54
97B		113A			B 43	134		152	C 18	162C 3	B 65
	B 53	113B			J	135A	Bo	153	J	162D I	
97D		113C			C 11	135B	A 13	154A	B 25	162D 2	
98A		113D			B 71	135C		154B	В 17	162D 3	
	В 8		J	127B	B 82	135D		154C	B 15	162D 4	
	B 14	114A			B 49		J	155	A 2	162D 5	
100A		114B			B 44		j J	156A	B 47	162D 6	
тооВ		114C			B 26	137		156B	Ī	162D 7	
100C			J	127F	*44		J	156C	J J	162E	
юіА			C 4	127G	B 27	139	J	156D	j		B 67
	J		A 3	127H	B 57	140A		156E	B 59	162G 1	
101C		118A		127I	B 66		B 7	156F	B 51	162G 2	
	Cı	118B		127J	B 56	140C		156G	$J^{47}$	162H	*
	J		J	12/J 128A	C 9	140D		156H	B 21	162II	
104	J	120A			J	140E		156I	B 7 bis	1-17	*
105	C 23	120B			В 39	141	C 12	156J	J	162J	
106	B 16	120D			B 36	142A	T46	156K	B 62	1-5	*
107A		120D			J	142B	J	156L	J <sup>47</sup>	162K	*
107H 107B		120E		129R	J	142D	J T	156M	J	162H	
107D		120E		130	J C 28	142A		157A	A 9	I-3	*
10/C		121A		131	C 22		B 3	157B	A 5	163A	В 31
100M		121A			J <sup>45</sup>	143D		157C	B 19	163B	
108C	j	121D		132A	J	143C			C 2	163B	A 12
109	J Br	121G 122A		132B 132C 1	<b>J</b> ∗45	144A 144B		158			C 14
109 110A								159	J	165A	Ţ
110A			J	132C 2		145	C 5	160 161	J	165B	J
		122C		132C 3		146	A I		A 4	165C	C 38
110C			C 35	132C 4		147A		162A 1		165D	Ţ
110D		124A		132C 5		147B		162A 2	•	165E	J
111A		124B		132C 6		148A		162A 3		166	Bronze
111B		124C		132C 7		149A		162A 4			bowl
112A		125A			Ţ		Ţ	162A 5			(Plate
112B		125B			Ţ		J	162B 1			IIIc)
112C	ь 32	125C	A IO	132F	J	150A	A 7	162B 2	.1		

<sup>44</sup> This item is a small piece of "Cut-silver", of which the weight is not at present on record. It will be included in the forthcoming catalogue of jewellery, together with the first two items in the note following.

<sup>45 132</sup>A and B are two very small rings which have not been weighed, but which were possibly monetary. No. 132C 1 is a very small piece of "Cut-silver".

 <sup>&</sup>lt;sup>46</sup> 142A is a minute ring of unknown weight.
 <sup>47</sup> 156G and J are pieces of "Cut-silver" made from lengths of wire, and are being published with the jewellery as also is 156L, a flat triangular piece, apparently of foil.

<sup>48</sup> Items marked with an asterisk were registered en bloc under this serial, and have not been individually carded.